

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
WATER POLLUTION CONTROL PERMIT

PERMIT NO.: 1987-EE-2807

DATE ISSUED: June 5, 1987

FINAL PLANS, SPECIFICATIONS, APPLICATION
AND SUPPORTING DOCUMENTS
PREPARED BY: Foseco, Inc.

LOG NUMBERS: 2807A-87

SUBJECT: FOSECO, INC. -- Pretreatment of Metals Bearing Wastewaters -- Calumet Plant
-- Metropolitan Sanitary District of Greater Chicago

PERMITTEE TO CONSTRUCT, OWN AND OPERATE

Foseco, Inc.
10823 South Langley Avenue
Chicago, Illinois 60628

Permit is hereby granted to the above designated permittee(s) to construct and/or operate water pollution control facilities described as follows:

A 10,000 gallon wastewater storage tank with mixer, a small cyclone unit, a 470 gallon sludge holding tank with mixer, a 1,000 gallon process tank with mixer, a 100 gallon pH reagent storage tank, a basket strainer, a 200 gallon acid storage tank, two electrochemical cells, a 1,400 gallon degassing tank, a 1,800 lamella clarifier, a 55 gallon polymer feed tank, a 1,900 gallon sludge holding tank, an 8 cu. ft. sludge filter press, and all pipes, pumps and appurtenances needed to treat a maximum of 20,160 GPD of metal bearing wastewaters prior to discharge to the Calumet Plant of the Metropolitan Sanitary District of Greater Chicago.

This Operating Permit expires on June 1, 1988.

This Permit is issued subject to the following Special Condition(s). If such Special Condition(s) require(s) additional or revised facilities, satisfactory engineering plan documents must be submitted to this Agency for review and approval for issuance of a Supplemental Permit.

SPECIAL CONDITION 1: The issuance of this permit shall in no way encumber any more stringent requirements for construction of a project by the City or Sanitary District.

SPECIAL CONDITION 2: There shall be no arrangement or cross connection by which an unsafe substance may enter the potable portion of a public water supply. The permittee shall comply with Illinois Pollution Control Board regulations 35 Ill. Adm. Code, Subtitle F: Public Water Supplies, Section 607.104 and Illinois Environmental Protection Agency Technical Policy Statements 35 Ill. Adm. Code, Subtitle F, Chapter II, Sections 653.801 through 653.805.

Continued on Page 2

THE STANDARD CONDITIONS OF ISSUANCE INDICATED ON THE REVERSE SIDE MUST BE COMPLIED WITH IN FULL. READ ALL CONDITIONS CAREFULLY.

TGM:AT:jk/2602g,71-72

cc: EPA - Region 2

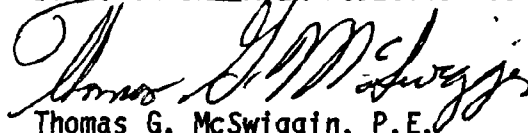
Tom Keeling, Foseco, Inc.

Joe Wadz, MSDGC

Permits

Records Unit ✓

DIVISION OF WATER POLLUTION CONTROL



Thomas G. McSwiggin, P.E.
Manager, Permit Section

EPA Region 5 Records Ctr.



324150

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SPECIAL CONDITION 3: The operation of the pretreatment facilities must be under the direct and active field supervision of a certified industrial treatment plant operator in accordance with the State of Illinois Rules and Regulations, Title 35, Subtitle C, Chapter 1, Part 312.

SPECIAL CONDITION 4: The issuance of this permit does not relieve the permittee of the responsibility of complying with any limitations and provisions imposed by Metropolitan Sanitary District of Greater Chicago.

SPECIAL CONDITION 5: The issuance of this permit does not relieve the permittee of the responsibility of complying with 35 Ill. Adm. Code, Part 307 and/or the General Pretreatment Regulations (40 CFR 403) and any guidelines developed pursuant to Section 301, 306, or 307 of the Federal Clean Water Act of 1977.

SPECIAL CONDITION 6: If there becomes a need to dispose of sludges generated at an off-site disposal facility, the wastes must be transported using the Agency's DLPC special waste stream permit and manifest system.

SPECIAL CONDITION 7: The permittee shall obtain monitoring results to be submitted to this Agency in the re-application of this permit for the following pollutants:

<u>Pollutant</u>	<u>Monitoring Frequency and Type</u>
Arsenic (Total)	1/month -- 24-hour composite
Barium (Total)	1/month -- 24-hour composite
Cadmium (Total)	1/month -- 24-hour composite
Chromium (Total)	1/month -- 24-hour composite
Chromium (Hexavalent)	1/month -- 24-hour composite
Chromium (Trivalent)	1/month -- 24-hour composite
Iron (Total)	1/month -- 24-hour composite
Lead (Total)	1/month -- 24-hour composite
Mercury (Total)	1/month -- 24-hour composite
Phenols (Total)	1/month -- 24-hour composite

Samples shall be taken of the effluent from the clarifier.

A composite shall consist of sample aliquots of approximately equal volumes, a minimum of 100 milliliters, to be collected at regular intervals over a normal work day when normal plant operations are performed. A single sample of the combined aliquots shall then be analyzed.

READ ALL CONDITIONS CAREFULLY:
STANDARD CONDITIONS

The Illinois Environmental Protection Act (Illinois Revised Statutes, Chapter 111-1/2, Section 1039) grants the Environmental Protection Agency authority to impose conditions on permits which it issues.

1. Unless the construction for which this permit is issued has been completed, this permit will expire (1) two years after the date of issuance for permits to construct sewers or wastewater sources or (2) three years after the date of issuance for permits to construct treatment works or pretreatment works.
2. The construction or development of facilities covered by this permit shall be done in compliance with applicable provisions of Federal laws and regulations, the Illinois Environmental Protection Act, and Rules and Regulations adopted by the Illinois Pollution Control Board.
3. There shall be no deviations from the approved plans and specifications unless a written request for modification of the project, along with plans and specifications as required, shall have been submitted to the Agency and a supplemental written permit issued.
4. The permittee shall allow any agent duly authorized by the Agency upon the presentation of credentials:
 - a. to enter at reasonable times, the permittee's premises where actual or potential effluent, emission or noise sources are located or where any activity is to be conducted pursuant to this permit.
 - b. to have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit.
 - c. to inspect at reasonable times, including during any hours of operation of equipment constructed or operated under this permit, such equipment or monitoring methodology or equipment required to be kept, used, operated, calibrated and maintained under this permit.
 - d. to obtain and remove at reasonable times samples of any discharge or emission of pollutants.
 - e. to enter at reasonable times and utilize any photographic,

recording, testing, monitoring or other equipment for the purpose of preserving, testing, monitoring, or recording any activity, discharge, or emission authorized by this permit.

5. The issuance of this permit:
 - a. shall not be considered as in any manner affecting the title of the premises upon which the permitted facilities are to be located;
 - b. does not release the permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the proposed facilities;
 - c. does not release the permittee from compliance with other applicable statutes and regulations of the United States, of the State of Illinois, or with applicable local laws, ordinances and regulations;
 - d. does not take into consideration or attest to the structural stability of any units or parts of the project;
 - e. in no manner implies or suggests that the Agency (or its officers, agents or employees) assumes any liability, directly or indirectly, for any loss due to damage, installation, maintenance, or operation of the proposed equipment or facility.
6. Unless a joint construction/operation permit has been issued, a permit for operating shall be obtained from the Agency before the facility or equipment covered by this permit is placed into operation.
7. These standard conditions shall prevail unless modified by special conditions.
8. The Agency may file a complaint with the Board for suspension or revocation of a permit:
 - a. upon discovery that the permit application contained misrepresentations, misinformation or false statements or that all relevant facts were not disclosed; or
 - b. upon finding that any standard or special conditions have been violated; or
 - c. upon any violation of the Environmental Protection Act or any Rule or Regulation effective thereunder as a result of the construction or development authorized by this permit.

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY

1098
IL 532-0357
ADM 39
054-002

Subject FOSECO

Data State Permit Log # 2807 A-87

Reviewed by Angela Tin

Date 5/26/87

1. Applicant Foseco, Inc.
10823 South Langley Avenue
Chicago, Illinois 60628
2. Project Construction & Operation of wastewater treatment
system (electro chemical) to remove heavy metals
3. Permit Construction/Operation New treatment
4. Engineer Nigel Brown
Tom Keeling - Cleveland 216/8264548
Foseco
5. Signatures Joseph G. Duffey (Design Engineer)
Received Andco Environmental Processes, Inc.
595 Commerce Drive
Amherst NY 14150
216/6912122
- Ian Hewitt (Permittee)
Plant Manager
Foseco
- F.E. Juliano (Sewer owner and POTW)
Engineer of Local Sewer Systems
MSDGC
100 E Erie St
Chicago IL 60611

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY

IL 532-0357
ADM 39
054-002

Subject Foseco

Data Log # 2807A-87

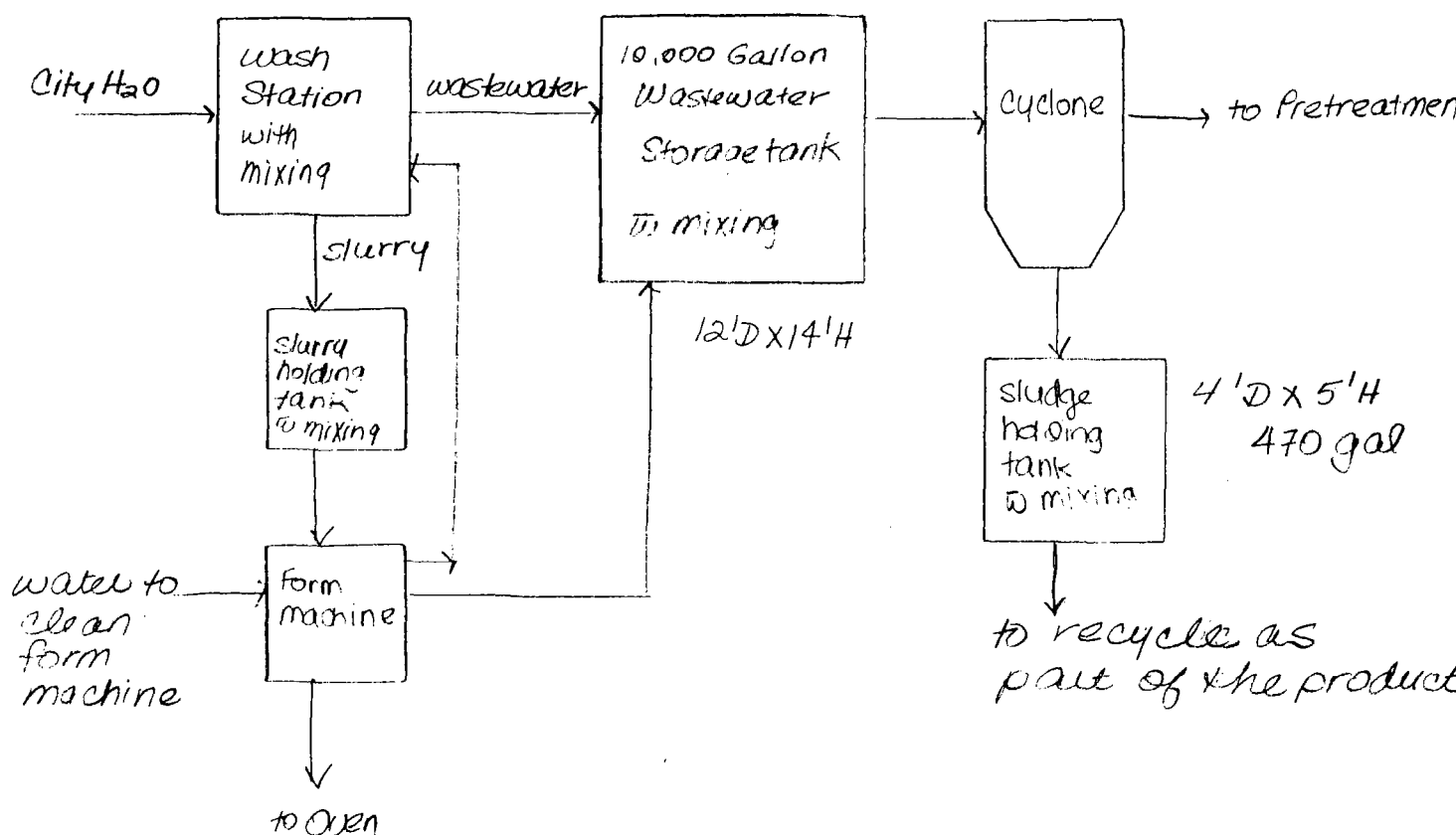
Reviewed by Angela Tin

Date 5/26/87

6 Facility

Description

The facility manufactures tundish liners for the steel industry. Raw materials (crushed brick) are washed to remove sodium sulfate using city water. The washed slurry is fed to the forming machine, which dewaters the slurry to produce the green product which passes to the oven.



Chromium is added to the raw material as a aid in erosion of the final product material. This Chromium is washed out with the wastewater when it is rinsed to remove sodium sulfate. FOSECO wants to put the Chromium sulfate back in the product.

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Subject FOSECO

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Date 5/26/87

Conversation with Tom Keeling

1. Wastewater from form machine flows to both wash station and wastewater holding tank
2. existing facility - new equipment
3. Metals come from a by-product of the forming process. Chromium is added to aid in erosion of the liners.
4. Tool cleaning water is the water used to rinse the form machine
5. Mixers on both holding and sludge tanks
6. Size and dimensions of sludge tank 470 gal 4'D x 5'H
holding tank 1011 gal 12'D x 14'H
7. Sludge will be recycled from both the sludge holding tanks.
8. Cyclone is a small centrifugal unit approximately 1 gallon size
9. Continuous treatment 2/8 hr shifts
10. Flows range from 14-22 gpm or 13440-21120 gpd
11. Chemical storage tanks - acid ~ 200 gal
reagent acid ~ 100 gal
12. Cells operate in series, although could be parallel
13. Degassing tank vents to atm with shower and fire extinguishers
1400 gal ave dt = 35 min
14. Clarifier 1800 gal dt = 45 min flow = 40 gpm
15. No chelating agents
16. Filtrate from sludge press goes to process tank not clarifier.
17. Press tank influent 14 gpm dt = 71 min
18. Sludge holding tank 1700 gal dt = 475 min flow = 4 gpm

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY

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IL 532-0357
ADM 39
054-002

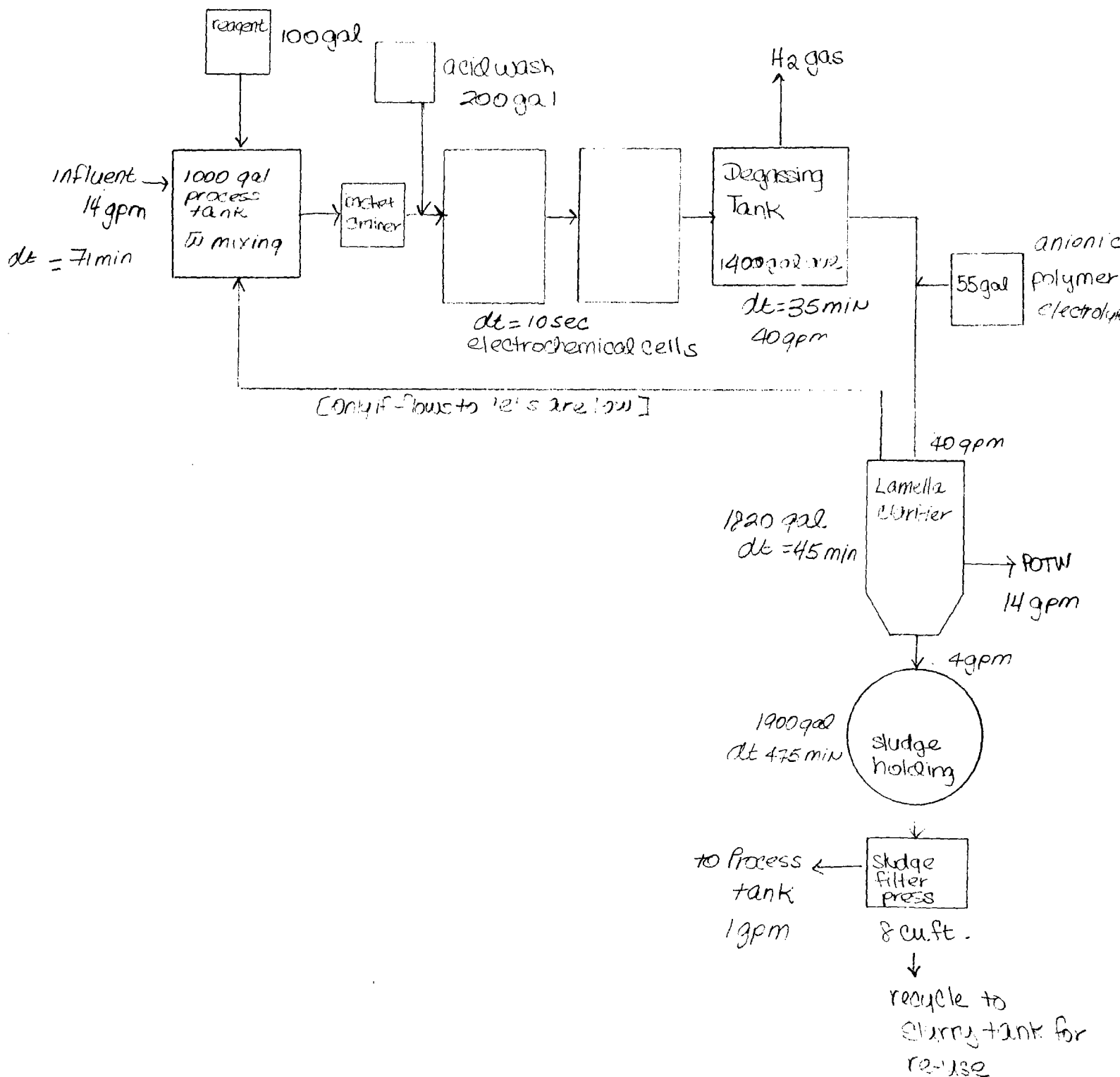
Subject FOSECO

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7. Treatment
Equipment



STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY

IL 532-0357
ADM 39
054-002

Subject FOSECO

Data Log # 2807A-87

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Date 5/26/87

8. Purpose of Equipment To reduce hexavalent chrome to trivalent chrome through electrochemical removal. A direct current is conducted through a cell containing carbon steel electrodes, generating ferrous ions into the wastestream. When hexavalent chrome is present, the ferrous ion acts as a reducing agent. Hydrogen gas is vented as a by-product. The cells have to be gas-vented daily. The effluent from the cells further requires polymer addition and clarification. The final effluent may be recirculated to the influent process tank or discharged (depending upon needed flow in cells). Sludge production is minimal and the metal hydroxide sludge is sent to a filter press and dewatered to about 30% solids. The filter cake is projected to be reused to generate chromium for the manufacturing process.

9. STANDARDS MCLs local limits are applicable

	<u>limit</u>	<u>raw waste</u>	<u>treated effluent</u> - projected - no actual data available
Cd	2.0	0.2	2.0
Cr(T)	25.0		
Cr(VI)	10.0	260.0	10.0
Cu	3.0		
CN(T)	5.0		
FOG(T)	250		
Fe	50.0	40.2	50.0
Pb	0.5	40.2	0.5
Ni	10.0		
Zn	15.0		
pH	5-10		
Al		10.0	10.0
En		410	410
Cr(III)		15	15.0

STATE OF ILLINOIS
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054-002Subject FOSE COData LOG # 2807 A-87Reviewed by Angela TinDate 5/26/87

	<u>limit</u>	<u>raw</u>	<u>final</u>
Hg	.003	<0.01	<0.01
phenols		348	348
sulfate		20100	20100
SS		47100	20
TSS		23000	23000
Na		1950	1950

Talked with Joe Wadz (MSD6C)
re TSS concentrations - He
stated that the TSS is
no problems with the TSS

10 Action Issue 1 year permit

Require heavy metals and phenols data
on a monthly basis for 1 year.

Re-evaluate re-application to write 5 year permit.

Require sludge manifest if sludge disposal becomes
necessary.

No CROPA requirements

Fos notification given